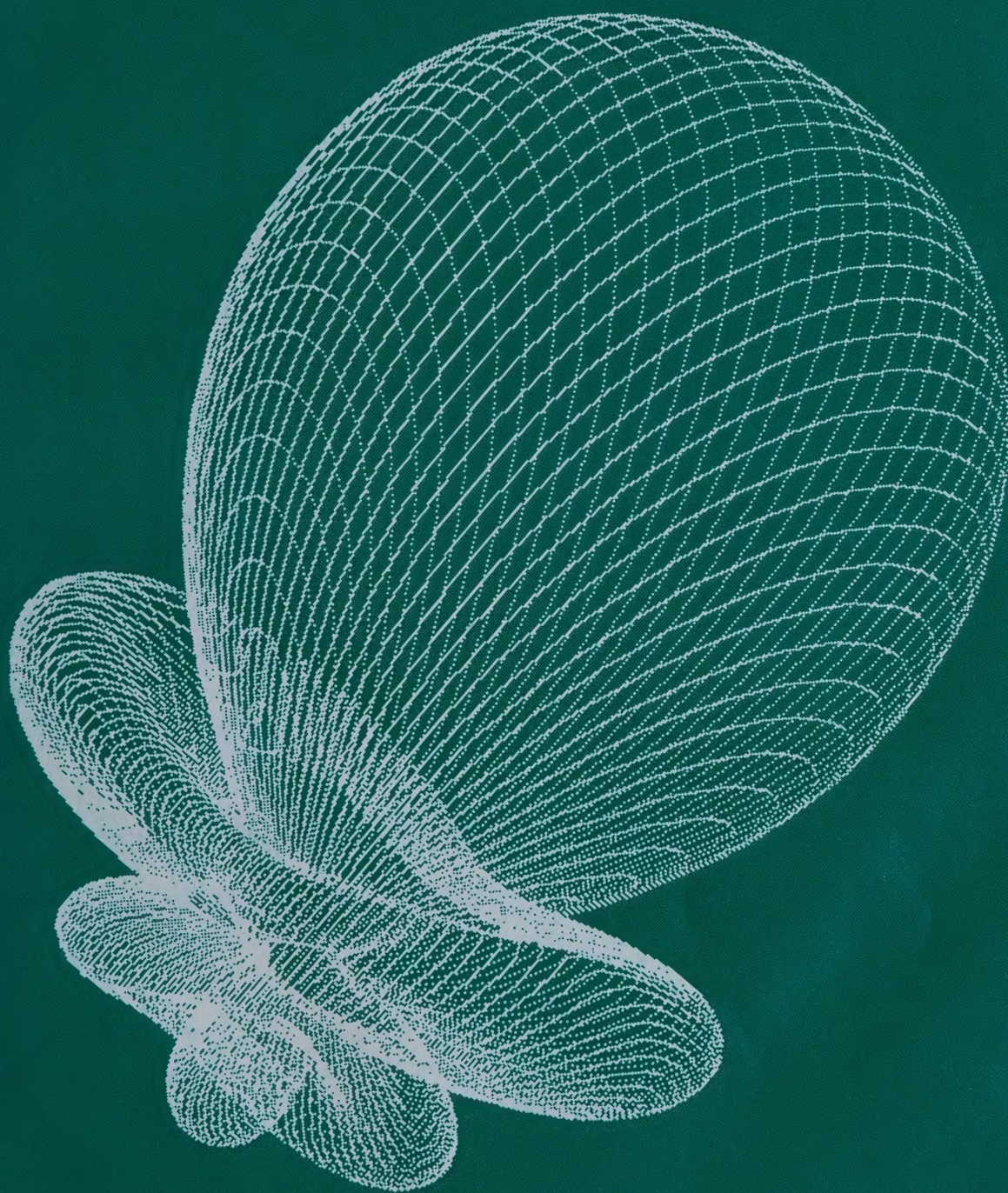
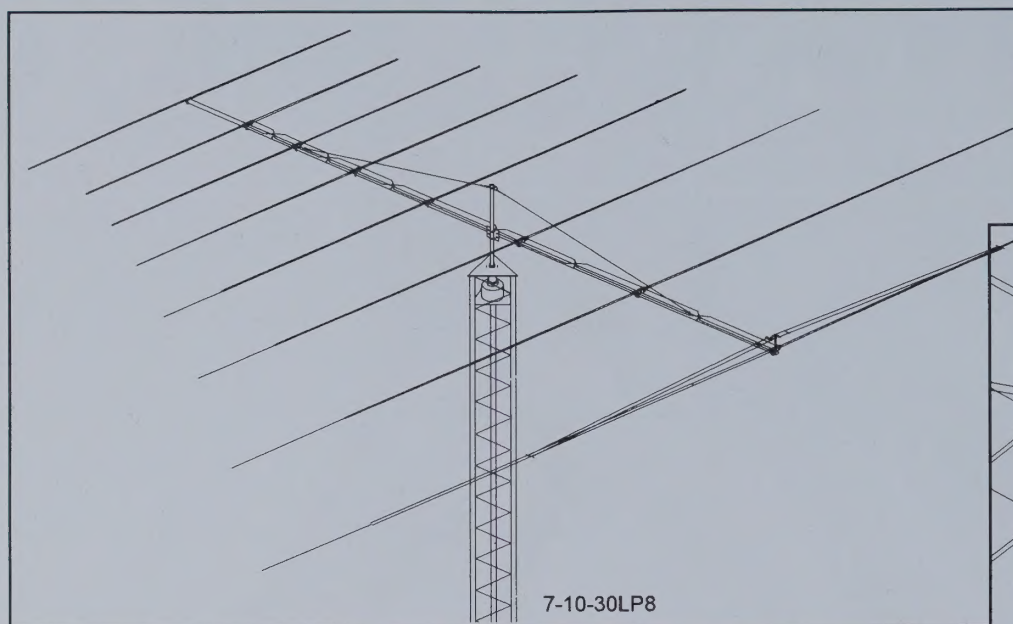


ANTENNAS

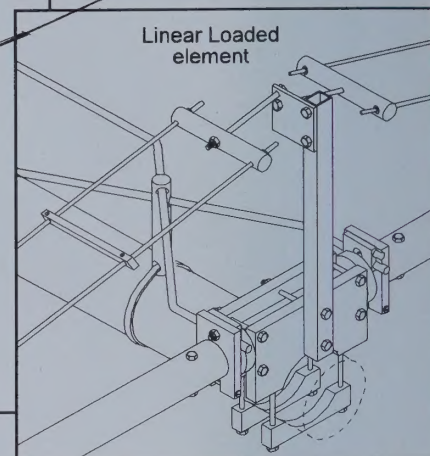
Positioners & Accessories

M²





7-10-30LP8



H. F. LOG PERIODICS

Amateurs with broad HF interests will find M²'s Log-Periodics extremely attractive: complete and instantaneous coverage of *all* frequencies within the rated bandwidth, computer optimized performance with excellent gain and F/B, no traps, efficient power handling, and 100 MPH wind survival. The three largest log models listed below share the same rugged construction: Massive CNC machined element mounting plates and clamps, solid fiberglass rod center insulators, elements double-walled at critical points, stainless steel hardware (except U-bolts), bushed, close-tolerance boom couplings, and overhead guy support systems. All aluminum is 6061-T6 and 6063-T832 alloys.

6-10LP5

M²'s unique 3/16" rod Linear Loading system is used on the two rear elements to reduce length and turning radius, putting less strain on rotator and tower. The rods are anchored above the boom, out of the element plane, to reduce inductive cancellation, mechanical stress, and element droop. Installed at 65 ft. or higher the LP5 provides world-wide communications, 6 through 10 MHz. Stack with the 10-30LP8 for complete, efficient, and economical coverage from 6 to 30 MHz!

10-30LP8

Two decades of Log Periodic design experience and extensive computer modelling helped create this hybrid log with 20 MHz of coverage. That's the 10, 12, 15, 17, 20, and 30 meter amateur bands, plus many maritime, government, military, and commercial frequencies. Excellent SWL coverage from 1 to 1000 MHz. The LP8 sets the standard for HF Log performance.

7-10-30LP8

All the coverage of the 10-30LP8 (10, 12, 15, 17, 20, and 30 meters) plus 40 meters in 125 KHz tuneable segments. The rear element is linear loaded, with the rods anchored above the boom to reduce inductive cancellation, mechanical stress, and element droop. Installed at 65 ft. or higher, the 7-10-30LP8 delivers world-wide, world-class performance.

17-30LP7

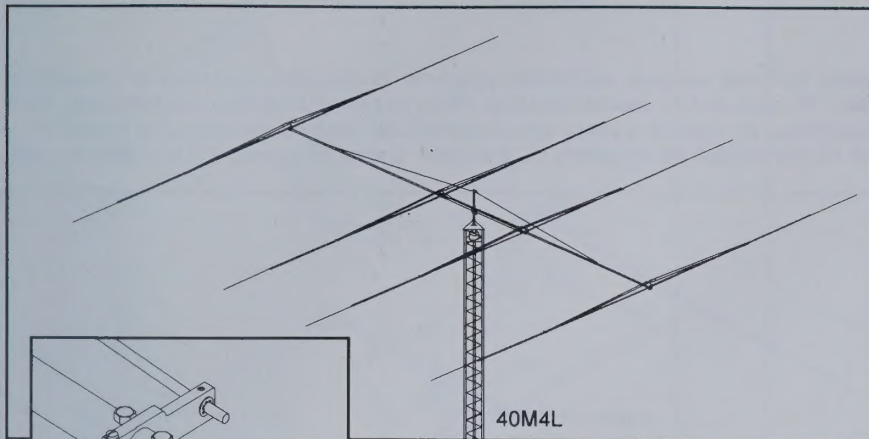
This lightweight, low wind load, log-periodic covers the 17, 15, 12 and 10 meter bands and leaves enough room on your tower for an HF monobander or two! Elements are mounted with machined element ring clamps, solid fiber-glass rod insulators and plenty of stainless steel hardware. Overhead guy supplied.

MODEL	6-10LP5	7-10-30LP8	10-30LP8	17-30LP7
FREQUENCY RANGE	6-10 MHz	7 & 10-30 MHz	10-30 MHz	17-30 MHz
GAIN, typ.	5 dBd	1 dBd @ 7 MHz 6 dBd @ 10-30 MHz	6 dBd	6.5 dBd
FRONT TO BACK, typ.	15 dB	3 dB @ 7 MHz, 15 dB @ 10-30 MHz	15 dB	20 dB
BEAMWIDTH	E=70° / H=85°	E=65° / H=75°	E=65° / H=75°	E=65°
VSWR, MAX.	2:1, 1.5:1 typ.	1.8:1, 1.5:1 typ.	2:1, 1.5:1 typ.	1.5:1
BOOM LENGTH / DIA.	30' / 3" X .125"	30' / 3" X .125"	32' / 3" X .125"	23'8" / 2"
ELEMENT LENGTH, MAX	58'	46'	46'	28'8"
TURN RADIUS	33'	28'	28'	19'
WIND AREA	13 SQ FT	13 SQ FT	12.5 SQ FT	6.5 SQ FT
WIND SURVIVAL	*100 MPH	*100 MPH	*100 MPH	100 MPH
WEIGHT, LBS	97 LBS	92 LBS	87 LBS	29 LBS

*125 MPH versions available

40 & 20 Meter Monobanders

M²



40M4L

40M1L

Simply the world's best rotatable, reduced-size dipole. The same driven element that lights up the 40M2L, 3L, and 4L. Tuneable from 6.9 to 10 MHz in 150 KHz segments. Stackable for more gain and a lower radiation angle.

40M2L

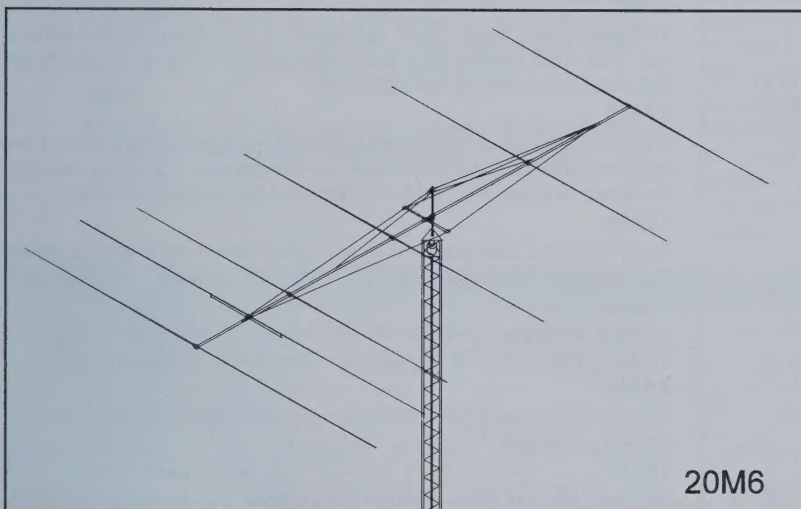
A compact, directional beam that most towers and rotators can handle.

40M3L

Three elements for gain, beamwidth, and F/B in 200 MHz segments that approaches the 40M4L.

40M4L

When superior, band dominating performance is called for, call for the 40M4L! Designed by, and built for, the hard core 40 meter enthusiast.



20M6

40 and 20 Meter Monobanders

Uncompromising computer optimized performance and construction are the benchmarks for M²'s 40 and 20 meter monobanders. Mechanically, these antennas share a common heritage with M²'s HF Log Periodics: massive, 1/2" thick, CNC machined element clamps, solid fiberglass rod insulators or sleeved element centers, all stainless steel hardware except U-bolts, .125" wall booms, and 100 MPH wind survival ratings.

The 20 meter series use full sized 6063-T832 aluminum elements, tapering from 1-1/4" to 1/2" at the tips. The 40 meter elements start at 1-1/2" and use M²'s unique Linear Loading system (see opposite page) to keep lengths manageable. Associated clamps and shorting bars are CNC machined. All models are supplied with conservatively rated baluns that easily handle full legal limits.

20M driven element

20M4

Match performance to your band preferences and QTH by selecting element spacing / length settings from 5 different optimizing programs: full bandwidth, full phone, low phone, CW, or stacked / low phone options. Narrow band options offer gain, VSWR, and F/B approaching the 20M6. Minimum (full band) and maximum figures are shown in table below. Overhead guy included.

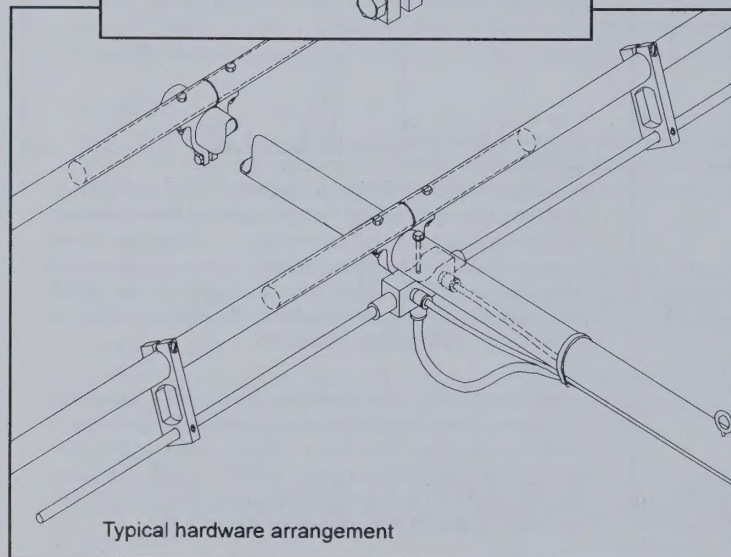
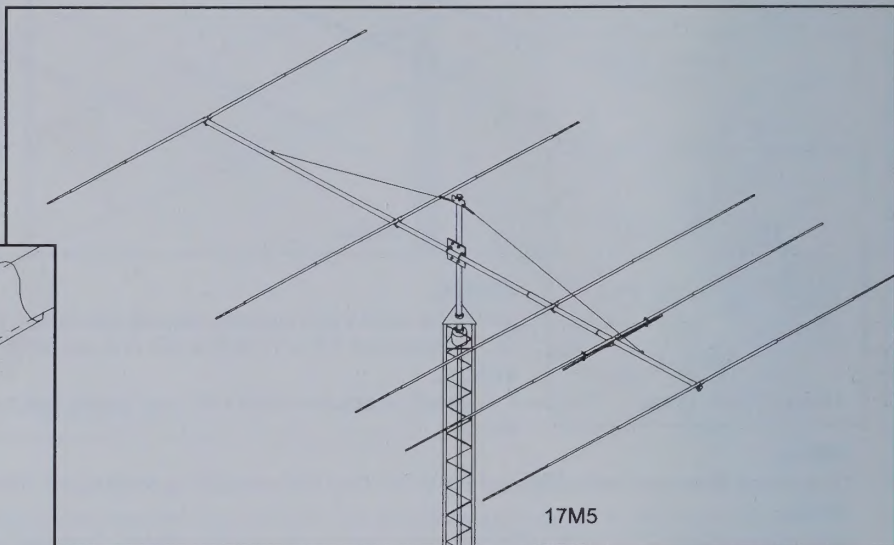
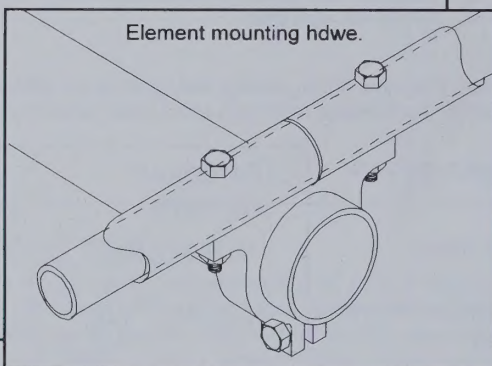
20M6

Uncompromising performance and full bandwidth coverage! Computer optimization squeezes the last drop of performance from this boom length: virtually flat gain, exceptional F/B, and excellent VSWR across the band. Double overhead and single side guying ensure long term survival. "T" match with 4:1 balun rated at 3 kW.

MODEL	40M1L	40M2L	40M3L	40M4L	20M4	20M6
FREQUENCY RANGE	6.9-10 MHz X 150 KHz	7.0-7.3 MHz X 125 KHz	7.0-7.3 MHz X 200 KHz	7.0-7.3 MHz	14.0-14.350 MHz (Full or segments)	14.0-14.350
GAIN	NA	4.2 dBd	5.6 dB	6.2 dBd	7.63 to 8.27 dBd	9.0 dBd
FRONT TO BACK	NA	12 dB	20 dB	22 dB	15.5 to 27.5 dB	25 dB
BEAMWIDTH	NA	E=85°	E=62°	E=60°	E=50°	E=46°
VSWR, MAX	2:1, 1.2:1 typ.	2:1, 1.2:1 typ.	2:1, 1.3:1 typ.	2:1, 1.2:1 typ.	2:1, 1.2:1 @ RES.	1.2:1 typ.
BOOM LENGTH / DIA.	NA	20' / 3" X .125"	30' / 3" X .125"	42' / 3" X .125"	45' / 3" X .125"	60' / 3" X .125"
ELEMENT LENGTH, MAX	46'	46'	46'	46'	37'	37'
TURN RADIUS	23'	25'	28'	31.5'	29.5'	40'
WIND AREA	3 SQ FT	6.5 SQ FT	9.5 SQ FT	13 SQ FT	8.5 SQ FT	14.8 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
WEIGHT, LBS	22 LBS	55 LBS	90 LBS	115 LBS	114 LBS	150 LBS

17, 15, AND 10 Meter Monobanders

All these models feature fresh-from-the-ground-up designs using the latest computer optimization programs. Construction follows the M² principles of rugged strength and long-term electrical integrity. The broadband "T" match and 4:1 coaxial balun keep efficiency high. For weather resistance, feed block and balun connectors are O-ring sealed. Internal feedblock connections are sealed in a space-age silicone gel with dielectric strength nearly 4 times better than air. The result is compact size and power handling rated at 1.5 KW. Models are completely DC grounded. Booms are typically 2" O.D., with the 17M5, 15M6, and 10M7 having 2-1/2" O.D. center sections. Elements on the 17 and 15 meter models start at 1" with sections tapering to 1/2". The 10 meter models use 3/4" sections with 1/2" tips. Elements are sleeved at the element clamp for extra strength. Booms and elements are 6063-T832 aluminum. Other key components are CNC machined from 6061-T6 alloy. All hardware is stainless steel except U-bolts. Overhead guy systems, when specified, use 3/16" Dacron rope and two turnbuckles.

**17M3**

17 meters offers plenty of DX potential and is open despite the sunspot null. The 17M3 delivers very respectable gain and F/B on a boom length that most rotors and towers can handle.

17M5

Put yourself on top of the pileups and really enjoy the DX on this quiet and non-competitive band. The full-size, no-compromise 17M5 was computer designed to excel on 17 meters. Overhead guy support included.

15M4

Enjoy full band coverage and a very clean pattern in E and H planes. Outperforms many larger yagis.

15M6

Looking for super-gain across the band with excellent pattern and VSWR? This is it! Ideal for stacking. Overhead guy support included.

10M4

The practical-sized 10M4 offers gain and bandwidth computer optimized for it's boomlength.

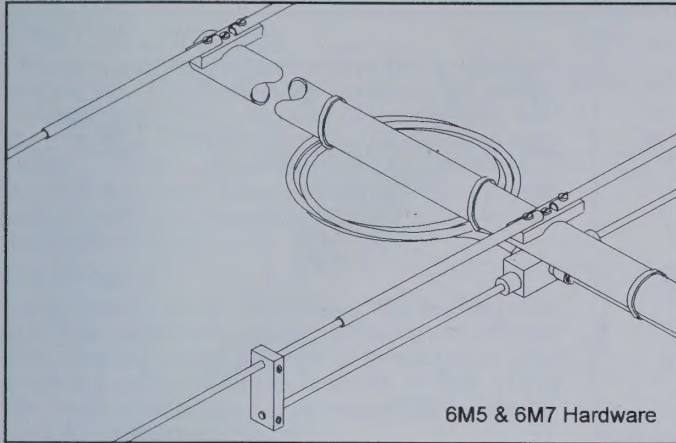
10M7

Designed with the DX'er in mind, performance is outstanding on both the CW and phone band segments. Works well even beyond the rated bandwidth with minimally higher VSWR.

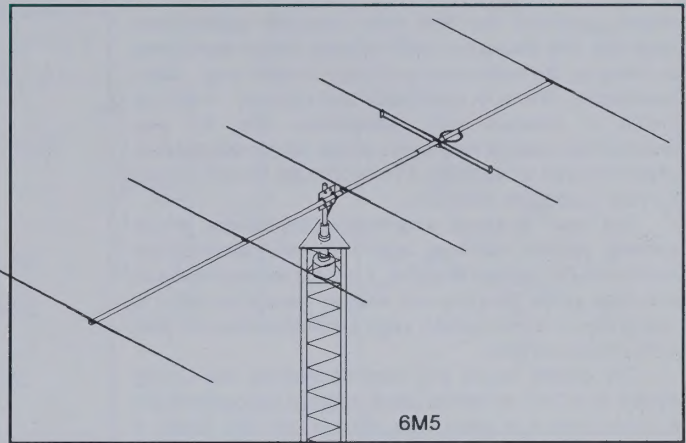
MODEL	17M3	17M5	15M4	15M6	10M4	10M7
FREQUENCY RANGE	18-18.3 MHz	18.05-18.2 MHz	21.0-21.450 MHz	21.0-21.450 MHz	28-29 MHz	28-28.75 MHz
GAIN	6.3dBd	8.6 dBd	8.5 dBd	9.4 dBd	8.7 dBd	10.3 dBd
FRONT TO BACK	25 dB	24 dB	25 dB	25 dB	25 dB	25 dB
BEAMWIDTH	E=60° / H=90°	E=50° / H=60°	E=53° / H=60°	E=48° / H=53°	E=53° / H=60°	E=46° / H=56
VSWR	1:1 @ 18.1 MHz	1:1 @ 18.125	1.2:1 Max.	1.4:1 / 1.2:1 Typ.	1.2:1 Max.	1.4:1 Max.
BOOM LENGTH / DIA.	18' / 2"	36' / 2-1/2" & 2"	33'8" / 2" & 2.5"	44'10" / 2" & 2.5"	23' / 2"	45' / 2" & 2.5"
ELEMENT LENGTH, MAX	27' 10"	27' 11"	23' 8"	23' 8"	17' 4"	17' 6"
TURN RADIUS	16' 6"	24' 5"	21'	27'	14'	26'
WIND AREA	4 SQ FT	7.25 SQ FT	6.1 SQ FT	8.5 SQ FT	3.7 SQ FT	7.4 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	90 MPH
WEIGHT	30 LBS	55 LBS	32 LBS	50 LBS	23 LBS	49 LBS

6 Meter Antennas

M²



6M5 & 6M7 Hardware



6M5

6M5, 6M7, 6M2WLC, and 6M2.5WLC 6 Meter Monobanders

These designs draw upon the latest computer optimization programs and our best HF and VHF hardware. The 6M5 and 6M7 are designed for easy assembly and disassembly: elements are supplied in halves and mount to machined aluminum element blocks. The 2" O.D. boom sections are in manageable 7' lengths. To reduce weight and windload, the larger 6M2WLC and 6M2.5WLC use parasitic elements of 1/4" rod with 3/8" central sleeves mounted through the boom on UV stabilized button insulators. For extra strength, the central boom sections are 2-1/2" O.D. with 2" O.D. end sections. The driven element uses an HF style element ring clamp with 3/4" element sections (and a 7/8" reinforcing sleeve). All models use a "T" match feed with CNC machined match-block module and shorting bars, O-ring sealed connectors, silicone gel sealed internal connections, and coaxial balun. For matching, power handling and weather resistance, our driven elements cannot be beat!

6M5

Light, but rugged and optimized for GAIN! Quick and easy assembly makes it great for mountain-topping, grid and DXpeditions. For the serious enthusiast, it's an effective and inexpensive building block for vertical stacks and moon-bounce arrays. Completely DC grounded.

6M7

Manageable and mid-sized, yet outperforms competitive antennas with longer boom lengths. Completely DC grounded.

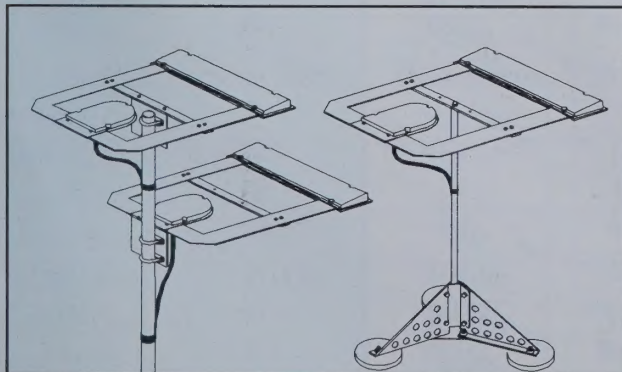
6M2WLC

Computer optimized to produce maximum gain and performance around 50.1 MHz. Perfect as a stand-alone antenna or a building block for a spectacular 6 meter gain-package. Overhead guy system supplied.

6M2.5WLC

Recently tweaked for a bit more gain and F/B. If a single 6M2.5WLC will produce moon echoes at full legal power, just imagine what it can do on long-haul tropo, meteor scatter, or just an ordinary E or F2 opening. Stacked arrays have worked single yagi stations on EME! Overhead guy included.

MODEL	6M5	6M7	6M2WLC	6M2.5WLC	6MSQLOOP
FREQUENCY RANGE	50-50.5 MHz	49.5-50.5 MHz	49.7-50.5 MHz	49.6-50.3	50-54 MHz X 100 KHz
GAIN	9.4 dBd	10.5 dBd	11.9dBd	12.6 dBd	4 dBv (see text)
FRONT TO BACK	12 dB	23 dB	25 dB	23 dB	NA
BEAMWIDTH	E=52° / H=60°	E=42° / H=50°	E=36° / H=39°	E=33° / H=37	OMNI / Horiz. Pol.
VSWR	1.2:1 Typ.	1.2:1 @ 50.1 MHz	1.2:1 @ 50.12 MHz	1.2:1	1.3:1 X 100 KHz
BOOM LENGTH / DIA.	15'10" / 1-1/2"	26'9" / 2"	39'6" / 2" & 2-1/2"	50'2" / 2-1/2"to 2"	Size: 17" X 17" X 2"H
WIND AREA	2 SQ FT	3 SQ FT	5 SQ FT	5.6 SQ FT	.17 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
WEIGHT	9 LBS	20 LBS	31 LBS	38 LBS	5 LBS



6MSQLOOP

This compact mobile / base antenna delivers a strong omnidirectional, horizontally polarized signal. Physically, the SQLOOP is a flat, reduced-size Square LOOP, fabricated from 2" wide TIG welded sections. The black ABS weather cover is configured for minimum wind resistance. The heart of this design is a magnetically shielded coupling loop that converts the 2 ohm loop impedance into a 50 ohm unbalanced feed. Horizontal polarity permits the SQLOOP to pick up about 4 dB of ground gain that verticals cannot. Poor or no ground yields less gain but a lower radiation angle.

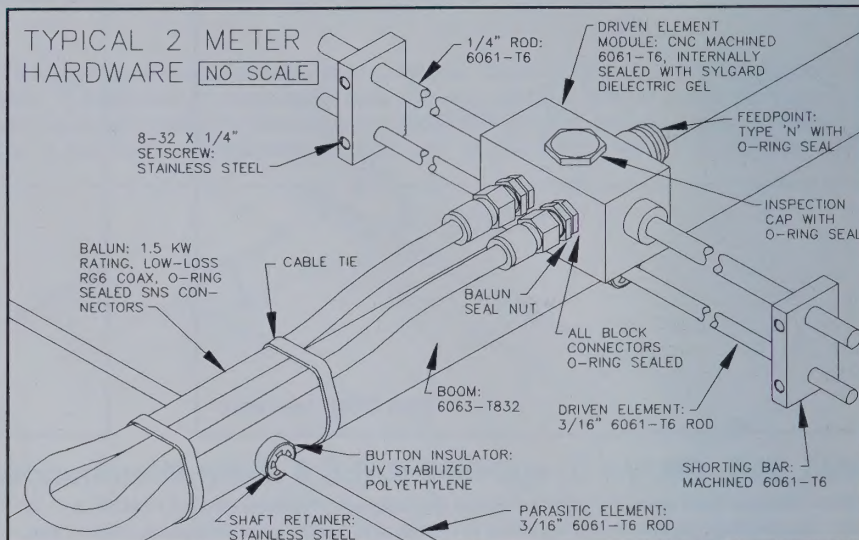
Hardware is supplied for easy mobile or fixed mounting. The fiberglass crossbar has a 3/8" center hole for mobile mounting. Attach the base-mount bracket here for mast-top mounting, or to the leading edge of the SQLOOP for sidewall or mast mounting (see drawing at left). 1-1/2" and 2" U-bolts are supplied. On the right, with single SQLOOP is the optional "Triple Sticker" mobile mag-mount.

We've combined the best new computer optimization programs and decades of VHF antenna design experience to maximize the performance of every 2 meter yagi. Gain, beamwidth, F/B and bandwidth are tailored, model by model, to enhance your applications. And, M² yagi antennas are built for long-term service with no degradation of performance or reliability. All are rated for 100 MPH wind survival, except the 2M8WL.

The heart of these antennas is the unique driven element module shown at right. Originally designed for maritime ATS satellite systems, it proved so successful at matching, power handling and weather resistance that it is now in use on all our 2 meter yagis (and many other HF and UHF models as well).

The details: balun and feed connectors are O-ring sealed to a CNC machined block. Internal connections are encapsulated in a space-age silicone gel with nearly 4 times the dielectric strength of air. The balun connectors are triple sealed on the coax and nut-sealed at the block connectors. The type "N" feed connector features a beryllium copper, gold-plated center pin. Power handling is rated at 1500 watts.

Other components match the driven element for durability. Parasitic elements are 3/16" 6061-T6 rods, mounted through the boom on UV stabilized Polyethylene button insulators and secured with stainless steel shaft retainers. Booms use 6063-T832 alloy aluminum. Except for U-bolts, all hardware is stainless steel. The bottom line: high performance antennas that shrug off the effects of weather and time.



2M4

A clean, compact full-band design ideal for base and portable use with FM, Packet, SSB, point to point and repeater linking. Small enough to rotate in an attic.

2M7

Explore the potential of a high performance directive antenna. A lot of bang for the buck, outperforming many longer competitors. Ideal for those with limited space or budgets. Low sidelobes for stacking. Lightweight for portable hill topping.

2M9FM / 2M9SSB

2 special 9 element models, one optimized for FM (146-148 MHz) and one for SSB (144-146 MHz). Both are lightweight, easy to handle, and deliver the most gain for boom length of **any** antenna. Stack a pair for the same big gain (14.8 dBd) as our 33' 2M5WL but with only an 8' turning radius.

2M12

A clean pattern so you hear better, interfere less. Ideal for stacking. Two, side by side, vertically polarized are a dynamite FM DX package - four are perfect for long haul tropo DXing or moonbounce.

2M5WL

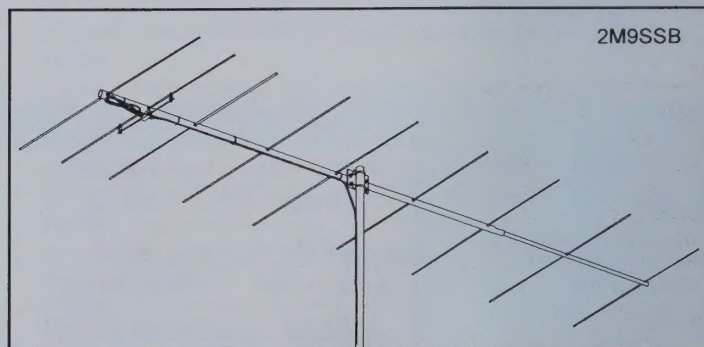
Designed for the serious DXer. Maximum gain for minimum weight and windload. Widely used in EME and Tropo scatter arrays.

2M18XXX

Optimized for a powerful signal on SSB, 144-146 MHz. Better sidelobes and F/B than any other antenna on the market.

2M8WL

Designed specially for EME contact with even small 4 yagi stations. Dynamite on Tropo. Boom tapers from 2" to 3/4". Top and side guyed. Packs in 5' long box for convenient travel.



MODEL	2M4	2M7	2M9	2M12	2M5WL	2M18XXX	2M8WL
FREQUENCY RANGE	144-148 MHz	144-148 MHz	FM or SSB	144-148 MHz	144-148 MHz	144-146 MHz	144-146 MHz
GAIN	7.5 dBd	10.3 dBd	12.0 dBd	12.8 dBd	14.8 dBd	15.3 dBd	16.7 dBd
FRONT TO BACK	20 dB	20 dB	24 dB	25 dB	22 dB	25 dB	23 dB
BEAMWIDTH	E=54° / H=74°	E=46° / H=54°	E=35° / H=40°	E=32° / H=36°	E=26° / H=29°	E=25° / H=29°	E=23° / H=26°
VSWR	1.5:1 Max.	1.3:1 Typ.	1.4:1 Max.	1.2:1	1.2:1	1.2:1	1.2:1
BOOM LENGTH / DIA.	4' / 1"	8'10" / 1"	14'6" / 1"-3/4"	19'6" / 1-1/2"	33' / 1-1/2 to 3/4"	36'3" / 1-1/2" to 3/4"	52'9" / 3" to 2"
ELEMENTS	4	7	9	12	17	18	24
TURN RADIUS	4'	4' 6"	8'	10'6"	18'9"	19'6"	24'2"
WIND AREA	.5 SQ FT	.74 SQ FT	1.2 SQ FT	1.5 SQ FT	2.7 SQ FT	2.9 SQ FT	3.5 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH	75 MPH
WEIGHT	3 LBS	4 LBS	6 LBS	8 LBS	12 LBS	14 LBS	23 LBS

2 Meter Specialized

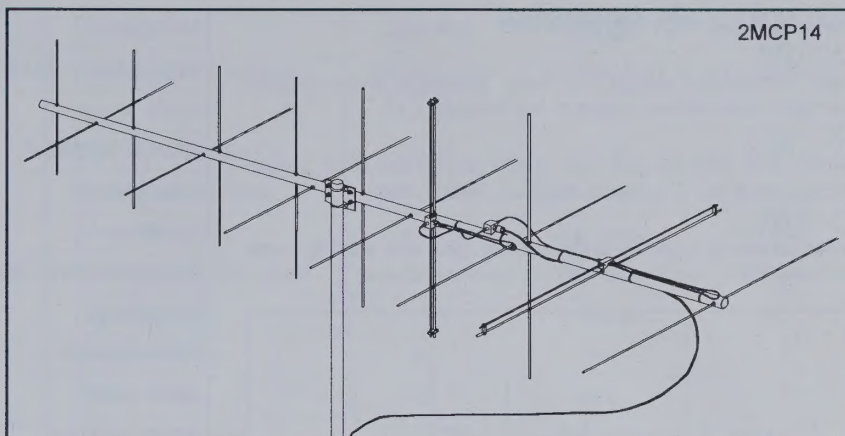
M²

2MCP14

This lightweight, medium performance Circular Polarized antenna has match and gain optimized for satellite reception, 144-147 MHz. Also great for terrestrial use, 143-148 MHz, when terrain and obstructions result in less-than-perfect polarities. Extensively computer modeled for minimum side-lobes, optimum S/N ratios. Type "N" feed with 1.5 KW power handling. 137 MHz and 149 MHz models also available.

2MCP22

Designed for the serious OSCAR user. Side and back lobes have been significantly reduced, enhancing the S/N ratio and putting your power where it will do the most good! Ideal for general use across the band from FM, to SSB, to CW DX. Arrays of two or more can be used for EME. Type "N" feed and 1.5 kW power handling

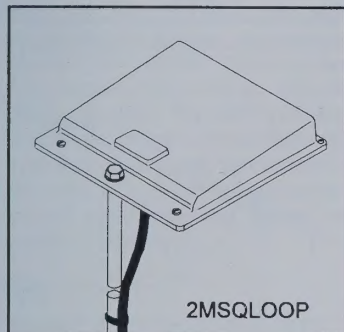


2MCP14

2MSQLOOP

When space, time, budget **and** the desire for good performance on SSB / CW are all factors, the unique SQLOOP is a proven winner. Get consistent mobile and base communications of 200 miles or more; save wear and tear on your rotator. Surprisingly big signal because the horizontally polarized SQLOOP picks up almost 5 dB of ground gain that verticals can't! Surprisingly small, this low windload, 9" x 9" x 1" package can be discretely mounted with a single 3/8-24 bolt in a variety of base station or mobile locations. No groundplane or radials needed for maximum performance. For mobile use, the SQLOOP COMBO option includes an 18" mast section and single mag-mount.

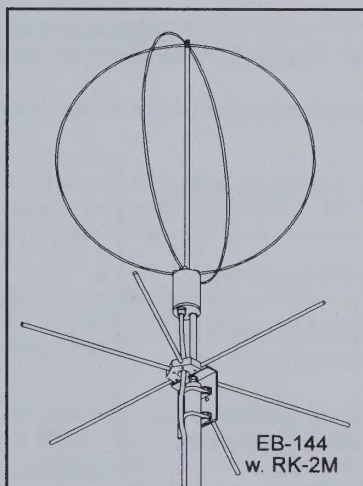
Get even more gain (6 to 8 dB over average ground) and greater mounting versatility from the SQLOOP-STACK option: two SQLOOPS with mast sections, phasing lines, "T" junction block. Wall / mast mounting plate and U-bolts are supplied for convenient attachment to masts, plumbing vents, eaves, sidewalls, etc. For mobile use, the optional "Triple-Sticker" Mag-mount is recommended.



2MSQLOOP

EB-144 "Eggbeater"

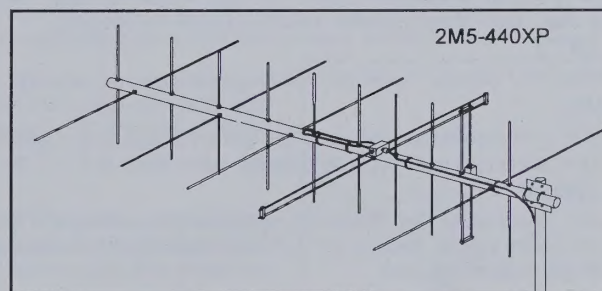
Great for mobile, base, net control, contest or field day...and outstanding for accessing the low-pass OSCAR satellites (even the weather-sats @ 137 MHz). No steering or rotation is needed. The distinctive, compact "Eggbeater" offers a whole new performance package for fixed and mobile use: smooth omnidirectional, horizontal polarity at the horizon, Right Hand Circularity overhead. Std 3/8-24 mobile mount. For enhanced satellite operation, the optional RK-2M Radial Reflector Kit increases the overhead circular signal by 6 dB and provides a convenient mounting plate and U-bolts for fixed installations. For a revealing review in print see the 9/93 QST.



EB-144
w. RK-2M

2M5-440XP

Compact dual band antenna designed for linking repeaters and remote bases using both 2 meters and 440 MHz. Cross polarized to avoid poor performance common with dual band antennas when both are vertically polarized on the same boom. Useful also for OSCAR, Packet, or wherever 2 band capability and compact size are needed.



2M5-440XP

MODEL	2M5-440XP	2MCP14	2MCP22	2MSQLOOP	EB-144
FREQUENCY RANGE	2M & 430-450 MHz	143-148 MHz	144-148 MHz	144-144.5 MHz	135-150 MHz
GAIN	9 / 12 dBd	10.3 dBdc	12.5 dBdc	4.86 dBd @ 11°	6 dB, Horiz. or RHC o'head
FRONT TO BACK	12 / 25 dB Typ.	20 dB	25 dB Typ	NA	NA
BEAMWIDTH / PATTERN / POL.	Cross Polarized	52° Circular	40° Circular	OMNI, Horiz. Pol.	OMNI, Horiz. & RHC
VSWR	1.3:1 Max.	1.3:1 Typ.	1.4:1 Max.	1.5:1 Max. x 100 KHz	1.5:1 Max.
BOOM LENGTH / DIA.	5'8" / 1"	10'6" / 1"	18'6" / 1-1/2 to 1"	NA	NA
ELEMENTS	5 / 10	7H / 7V	11H / 11V	1(loop)	2 (loops)
TURN RADIUS / SIZE	5'5"	6'4"	10'	9"SQ X 1"H	34"H X 28"W
WIND AREA	1 SQ FT	1.1 SQ FT	2.5 SQ FT	.05 SQ FT	.07 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
WEIGHT	4 LBS	6 LBS	12 LBS	1 LB	1.4 LBS

220 MHz Yagi Antennas

222-7EZ

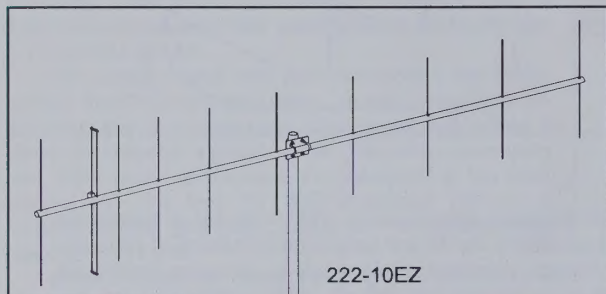
Clean mechanical design, full band coverage, and computer optimized performance. Center or rear mount.

222-10EZ

Medium size with flat gain and VSWR across the band. Driven element same as 7EZ. Center mounted, 1" O.D. boom.

222-7WL

Seven wavelength performance with flat gain and VSWR. Low windload, 3/32" Dacron overhead guy system included.



222-10EZ

UHF Yagi Antennas

Uncompromising, long term performance and electrical integrity are assured with computer optimized designs, CNC machined parts, silicone gel-sealed drive blocks, and O-ring sealed connectors. Rugged construction permits a 100 MPH wind survival rating (except 420-450-5HD @ 150 MPH) and all models use low-loss "N" type feed connectors.

420-450-5HD

150 MPH wind survival. Ruggedized components include .125" wall boom, 5/16" rod elements welded in place, and a totally sealed / DC grounded driven element. Perfect for linking and portable use, ATV and Packet. Rear mounted, any polarity. Excellent gain and pattern across the whole 70 cm band.

420-450-11

Full band coverage. Ideal for repeater linking, ATV or any point-to-point application. Very clean pattern for less intermod. Simply outperforms the competition. Stack for narrower beam and greater gain. Rear mounted, any polarity.

440-18

Computer optimized for excellent pattern and gain across the band. Ideal for ATV, OSCAR, FM, long haul tropo, etc. Center mounted. Good candidate for stacking.

440-21ATV

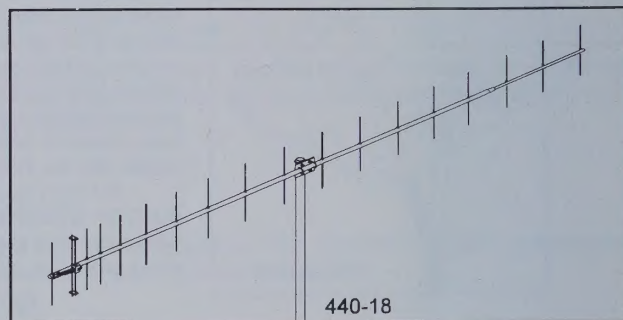
The ultimate ATV antenna. Computer and range optimized for very high gain 420 to 440 MHz.

432-9WL

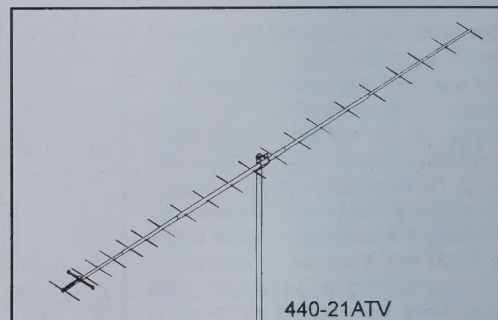
Dynamite in a small package: high gain, tight pattern (E and H) to outperform anything in it's class. Just imagine stacking a pair! The 9 wavelength boom starts at 1-1/2" O.D., tapering to 1" at ends.

432-13WLA

A top-notch, stand alone yagi. Absolutely sensational in an array of 4 with over 23 dB of gain. 13 wavelength boom: central section is 1-1/2" O.D., tapering in 1/4" increments to 3/4" at the ends. Overhead guy system included.

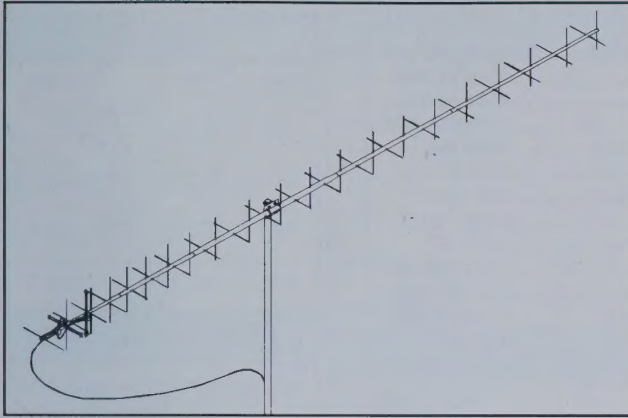


440-18



440-21ATV

MODEL	420-450-5	420-450-11	440-18	440-21ATV	432-9WL	432-13WL
FREQUENCY RANGE	420-450 MHz	420-450 MHz	420-453 MHz	420-440 MHz	420-440 MHz	430-434 MHz
GAIN	7.8 dBd	11.3 dBd	14.5 dBd	15.9 dBd	17.3 dBd	18.6 dBd @ 432
FRONT TO BACK	20 dB	20 dB	23 dB	23 dB	24 dB	22 dB
BEAMWIDTH	E=56° / H=72°	E=34° / H=43°	E=27° / H=32°	E=22° / H=24°	E=20° / H=22°	E=16° / H=18°
VSWR	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 Typ.	1.2:1 @ 425-436 MHz	1.2:1 Max.
BOOM LENGTH.	2'2"	5'	11'4"	14' 6"	21' (9 WL)	30'8" (13 WL)
ELEMENTS	5	11	18	21	28	38
MOUNTING	REAR	REAR	CENTER	CENTER	CENTER	CENTER
WIND AREA	.33 SQ FT	.575 SQ FT	.875 SQ FT	1.25 SQ FT	1.6 SQ FT	2.5 SQ FT
WIND SURVIVAL	150 MPH	100 MPH	100MPH	100 MPH	100 MPH	100 MPH
WEIGHT	3 LBS	4 LBS	5 LBS	4.6 LBS	8 LBS	10 LBS



436CP42 U/G

The Ultra/Gain 436CP42 U/G sets a new performance standard for UHF circular polarized antennas. An extremely clean pattern helps maximize forward gain and F/B. The boom length is matched to the 2MCP22, and together they form an unbeatably powerful satellite communications package. The 3/16" rod elements are centered in the boom to minimize interaction and ellipticity. Driven elements use our CNC machined drive block, with internal connections sealed in silicone gel, O-ring and nut-sealed connectors, and low-loss RG-6 coax baluns and phasing harness. Center mounted, requires non-conductive mast or crossboom.

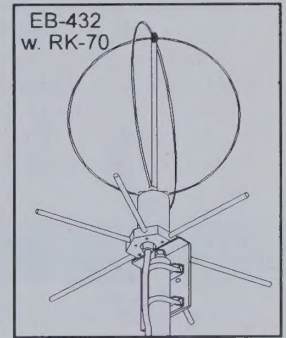
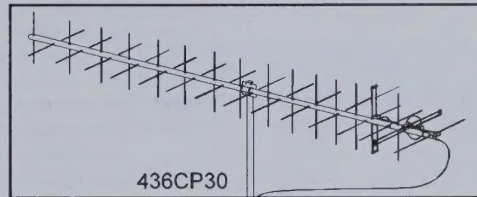
436CP30

High performance circular polarized antenna with a remarkably clean pattern, and noise temperature well matched with modern low-noise preamps. Designed for satellite communications, the CP30 is also a powerful tool for ATV, repeater operation, and long-haul tropo DX. Center mounted, requires non-conductive mast or crossboom.

MODEL	436CP30	EB-432	436CP42 U/G
FREQUENCY RANGE	430-440 MHz	420-450 MHz	430-438 MHz
GAIN	14.5 dBdc	4 dBv	16.8 dBc
F/B or ELLIPTICITY	22 dB	<1 dB	25 dB
BEAMWIDTH / POL.	30° Circular	OMNI, hor/cir	21° Circular
VSWR	1.4:1 Max.	1.5:1 Max.	1.5:1 Max.
BOOM LENGTH / SIZE	9' 9"	9.5" Dia.	18' 10"
ELEMENTS	30	2 (loops)	42
TURN RADIUS	5' 8"	NA	11' 6"
WIND AREA	1 SQ FT	MIN.	2 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH
WEIGHT, LBS	5	2	7.8 LBS

EB-432 "Eggbeater"

Versatile performer ideal for mobile, base, net control, contest, field day operations and satellite communications. Produces 6 dB of omnidirectional, horizontally polarized gain at the horizon when kept at least 14" above ground or reflective surface. Above the horizon, the pattern becomes Right Hand Circular for accessing OSCAR. The optional RK-70 Reflector Kit (shown below the "eggbeaters") directs the gain to the overhead circular-polarized lobe. Mounts to 3/8-24 male thread.



902-10EZ and 902-16EZ

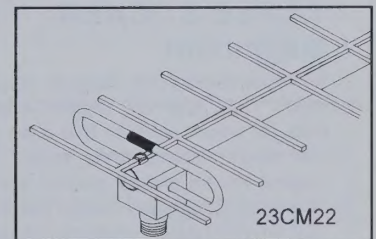
State-of-the-art design and construction. Excellent gain with quick rolloff at band edge to prevent receiver overload from hi-power services above 930 MHz. CNC punched element modules ensure exact element length and spacing, consistent performance. The "T" match drive block is CNC machined, silicone gel sealed, and provides a virtually flat match for over 40 MHz. "N" feed connector is O-ring sealed. Assembly time is under 5 minutes. Rear mounted.

902-14WL

An excellent ratio of size to performance, with low sidelobes and very high gain. A quad array yields almost 25 dBd! Ideal for Tropo and EME. Sealed, folded dipole driven element and boom tapered from 1-1/4", through 1" to 3/4" assures mechanical strength and electrical integrity.

23CM22EZ and 23CM35

Driven element is a modified folded dipole with internal balun. Great for hill-topping, ATV, repeaters, and OSCAR. Great for weak signal tropo / EME area of the band. Gain tops any antenna of comparable boom length. 35 Element model features 3/16 rod elements on button insulators. 22EZ uses CNC punched element modules with length and spacing accurate to .003"! Assembles easily in minutes. Both are center mounted.



MODEL	902-10EZ	902-16EZ	902-14WL	23CM22EZ	23CM35
FREQUENCY RANGE	900-928 MHz	900-928 MHz	900-910 MHz	1250-1300 MHz	1250-1300 MHz
GAIN	12.6 dBd	14.7 dBd	19 dBd	16.0 dBd	18.4 dBd
F/B	23 dB	25 dB	30 dB	26 dB	28 dB
BEAMWIDTH	E=35° / H=38	E=27° / H=30°	E=18° / H=19°	E=24°	E=17° / H=18°
VSWR	1.2:1 Max.	1.2:1 Max.	1.2:1 @ 902	1:1	1.2:1 Typ.
BOOM LENGTH	3'5"	5'4"	15'4"	5'2"	10' (13 WL)
ELEMENTS	10	16	41	22	35
MOUNTING	REAR	REAR	CENTER	CENTER	CENTER
WIND AREA	.30 SQ FT	.36 SQ FT	1 SQ FT	.3 SQ FT	.6 SQ FT
WIND SURVIVAL	100 MPH	100 MPH	100 MPH	100 MPH	100 MPH
WEIGHT	2.5 LBS	3.5 LBS	6 LBS	2 LBS	4 LBS

OR-2800 AZ Positioner

Powerful and reliable, the OR-2800 rotates multiple HF antennas or large VHF / UHF arrays with ease. Features include:

1. Precision worm-gear drive, not reversible by mast torque.
2. Non-slip, ductile iron mast clamps
3. Large drive plate for masts up to 3"
4. Heat-treated steel gear train, hardened driveshaft
5. Prop-pitch style torque plate
6. Fits inside towers like the Rohn 25 (top only) and 45, Triex LM-354, and U.S. Towers TX438
7. Motor-mounted digital pulse switch for accurate, closed loop control and heading display

Control Units

RC2800 Manual Control Unit

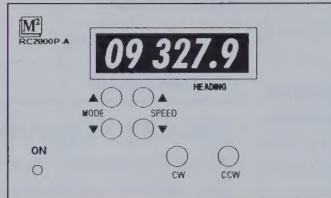
Digital display, push-button controls with variable speed control, reverse delay, N or S stop, programmable travel limits.

RC2800P-A Programmable Control Unit

Manual features *plus* heading preset, 4 programmable presets, programmable ramped start / stop, 1/2 degree target accuracy. RS232 port for complete computer control, tracking programs, etc.

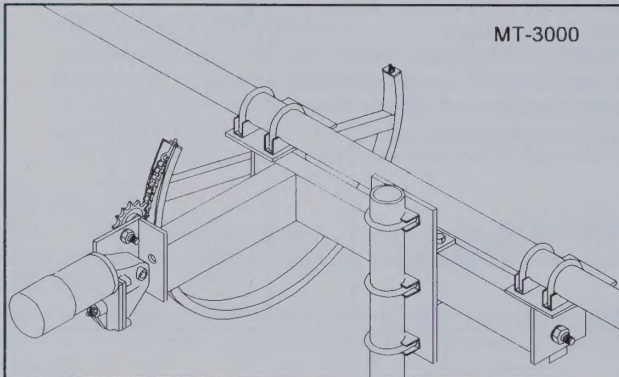
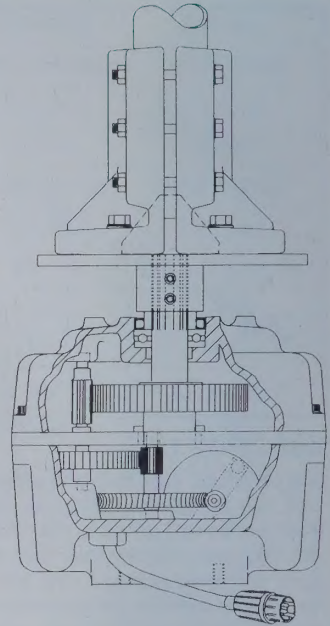
OR-2800 SPECIFICATIONS

Wind Area Capacity	35 sq. ft.
Starting Torque	3500 in./lbs.
Rotating Torque	2800 in./lbs.
Braking Torque	17000 in./lbs.
Vertical Load Capacity	1800 lbs.
Mast Size (O.D.)	1.75-3"
Rotation Speed, max	110 sec.
Rotation Range	0-360° ± 14°
Display / Travel Res	0.1° / .5°
Input Voltage	110 / 220 AC
Motor voltage	28 - 42 VAC
Cable requirements	3-#18, 2-#22
Weight (rotator unit)	42 lbs.



**MADE
IN
U.S.A.**

RC2800P-A
CONTROL UNIT



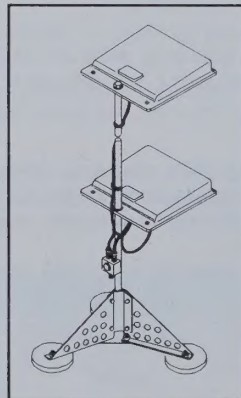
MT-3000 Elevation Positioner

Elevating and maintaining 6 meter, VHF, and UHF arrays is simpler and easier with the powerful and reliable MT-3000. Rotational capability is nearly 180 degrees, making it possible to completely invert an array for assembly, disassembly, and maintenance of upper bays. The MIG welded, gold-zinc plated, structural steel frame accepts crossbooms 3" to 5" (and tower sections, with optional adapter plates). The 24" drive-ring is chain driven by a 28 Volt, outdoor duty, permanent magnet 1255:1 gearmotor. Final reduction is 18,947:1 providing 4500 inch/lbs of torque. The control unit counts pulses from a magnetically actuated reed switch, mounted on the motor shaft and delivers a target accuracy 2/10 of a degree. An optional Limit Switch Kit, LSK-1, offers adjustable, weather sealed, travel limit control.

Manual and programmable (with computer control) Control Units, similar to the RC2800 and RC2800P-A, are available for the MT-3000.

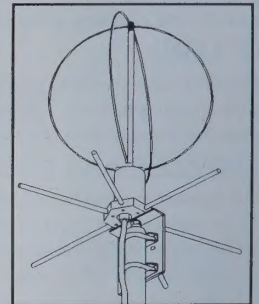
TRIPLE-STICKER Magnet Mount

Powerful three-point magnet mount for UHF, VHF, and HF mobile antennas. Ideal for newer vehicles that often lack a convenient attachment point. Mylar magnet covers protect painted surfaces. The Triple-Sticker will handle the 2 meter SQLOOP-STACK (shown), stacked 2 and 6 meter SQLOOPS, 8' vertical whips and a variety of HF mobile antennas. Supplied with "quick-disconnect" mast mount. Black powder-painted steel legs and magnets.



RK-2M and RK-70 Reflector Kits

Reflector and base mount package for the EB-144 and EB-432 "Eggbeaters" (shown). The six 1/4" rod reflectors produce a hemispherical pattern, increasing the overhead circular signal by 6 dB for improved satellite communication. A mounting plate, with 1-1/2" and 2" U-bolts, is supplied for easy installation to mast tops / sides or sidewalls.



VHF-50 and UHF-50 Phasing Cables

Electronically phased and matched, low-loss, high quality coax cables for your VHF and UHF arrays. Silver-plated connectors are shrink-sleeved and crimp-sealed to coax.

ROHN Towers / Systems & Packages

As a volume distributor for Rohn towers, we can now offer very competitive prices for complete systems and packages, including towers, antennas, Azimuth and Elevation positioners and controllers, crossbooms, "H" frames, power dividers, phasing and matching harnesses, and feedlines, etc. For assistance with developing a successful and powerful system or package, call, write, or fax, with your hardware and performance requirements.

Fiberglass Crossboom:

Strong, non-conductive crossboom unit consisting of two 2" O.D. x 1/4" wall x 60" Fiberglass tubes, a 1-1/2" O.D. x 18" solid aluminum center rod (for mounting through elevation rotor) and stainless steel 1/4-20 assembly hardware. Total length: 11 ft. Ideal for uplink / downlink circular polarized antennas or other applications where a non-interactive crossboom is required.

Power Dividers:

Lossless, airline, 2 and 4 port Power Dividers for 2 meters, 70 cm, and 23 cm are made of seamless aluminum tubing brazed to CNC machined junction blocks. "N" connectors are threaded in and O-ring sealed. The copper center conductors are supported by Teflon discs. All models easily handle 1.5 Kw.

Shipping & Ordering Information



HF LOG PERIODICS			6 METER ANTENNAS			220 ANTENNAS			ACCESSORIES		
MODEL	WT	SHIP	MODEL	WT	SHIP	MODEL	WT	SHIP	MODEL	WT	SHIP
6-10LP5	105 lbs	TRK	6M SQLOOP	7 lbs	UPS	222-7EZ	4 lbs	UPS	2M 2 Port PD	1 lbs	UPS
7-10-30LP8	100 lbs	TRK	6M5	13 lbs	UPS	222-10EZ	6 lbs	UPS	2M 4 Port PD	1 lbs	UPS
10-30LP8	95 lbs	TRK	6M7	23 lbs	UPS	222-7WL	14 lbs	UPS	70CM 2 Port PD	.5 lbs	UPS
17-30LP7	35 lbs	UPS	6M2WLC	42 lbs	TRK	70 CM ANTENNAS			70CM 4 Port PD	.5 lbs	UPS
HF MONOBANDERS			2 METER ANTENNAS			EB-432	3 lbs	UPS	23CM 2 Port PD	.5 lbs	UPS
80M1	80 lbs	TRK	2M SQLOOP	2 lbs	UPS	420-50-5 HD	5 lbs	UPS	23CM 4 Port PD	.5 lbs	UPS
80M2	190 lbs	TRK	SQLP COMBO	4 lbs	UPS	420-50-11	5 lbs	UPS	VHF-50	varies	UPS
80M3	400 lbs	TRK	SQLOOP-STACK	5 lbs	UPS	440-18	6 lbs	UPS	UHF-50	varies	UPS
40M1L	25 lbs	UPS	EB-144	3 lbs	UPS	440-21ATV	6 lbs	UPS	SQ Mag-mount	3 lbs	UPS
40M2L	62 lbs	TRK	2M4	4 lbs	UPS	436CP30	7 lbs	UPS	Triple-Sticker	9 lbs	UPS
40M3L	99 lbs	TRK	2M7	6 lbs	UPS	436CP42U/G	8 lbs	UPS	F'glass X-Boom	15 lbs	UPS
40M4L	128 lbs	TRK	2M9FM	7 lbs	UPS	432-9WL	11 lbs	UPS	RK-2M	4 lbs	UPS
20M4	124 lbs	TRK	2M9SSB	7 lbs	UPS	432-13WLA	13 lbs	UPS	RK-70CM	3 lbs	UPS
20M6	160 lbs	TRK	2M12	10 lbs	UPS	MICROWAVE ANTENNAS			ROTATORS / POSITIONERS		
17M3	34 lbs	UPS	2M5WL	14 lbs	UPS	902-10EZ	3 lbs	UPS	MT-3000D (EL)	88 lbs	UPS
17M5	62 lbs	TRK	2M18XXX	16 lbs	UPS	902-16EZ	4 lbs	UPS	MT-3000P (EL)	88 lbs	UPS
15M4	38 lbs	TRK	2M8WL	27 lbs	UPS	902-14WL	7 lbs	UPS	OR-2800D (AZ)	54 lbs	UPS
15M6	59 lbs	TRK	2MCP14	8 lbs	UPS	23CM22EZ	3 lbs	UPS	OR-2800P (AZ)	54 lbs	UPS
10M4	29 lbs	UPS	2MCP22	14 lbs	UPS	23CM35	5 lbs	UPS			
10M7	55 lbs	TRK	2MXP28	20	UPS						
			2M5-440XP	6 lbs	UPS						

Notes: _____



M² products are available through our select Dealer Network or Factory Direct. For information on ordering or your nearest dealer write, call, or FAX:

7560 N. Del Mar Ave, Fresno, CA 93711 (209) 432-8873 FAX: 432-3059





Cover: 10M7 pattern rendered in 3D by Brian Beezley's AO6 program.